



IFW

Docket No.: 1254-0302PUS1  
(PATENT)

**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE**

In re Patent Application of:  
Kohei NANBU et al.

Application No.: 10/564,391

Confirmation No.: Not Yet Assigned

Filed: January 13, 2006

Art Unit: N/A

For: LIQUID CRYSTAL DISPLAY DEVICE,  
BACKLIGHT UNIT

Examiner: Not Yet Assigned

**LETTER**

Commissioner for Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450

Sir:

Subsequent to the filing of the above-identified application on January 13, 2006, attached hereto is an English translation of the International Preliminary Report on Patentability (Form PCT/IPEA/409) that should be made of record in the present application.

If necessary, the Commissioner is hereby authorized in this, concurrent, and future replies, to charge payment or to credit any overpayment to Deposit Account No. 02-2448 for any

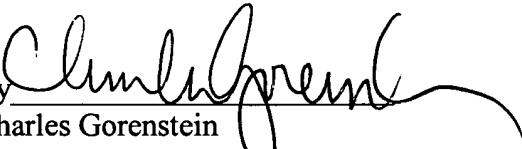
Application No.: 10/564,391

Docket No.: 1254-0302PUS1

additional fees required under 37 C.F.R. § 1.16 or under 37 C.F.R. § 1.17; particularly, extension of time fees.

Dated: August 3, 2006

Respectfully submitted,

By 

Charles Gorenstein

Registration No.: 29,271

BIRCH, STEWART, KOLASCH & BIRCH, LLP

8110 Gatehouse Road

Suite 100 East

P.O. Box 747

Falls Church, Virginia 22040-0747

(703) 205-8000

Attorney for Applicant

Attachment(s)

# PATENT COOPERATION TREATY

PCT/JP2004/010094

From the INTERNATIONAL BUREAU

## PCT

NOTIFICATION OF TRANSMITTAL  
OF COPIES OF TRANSLATION  
OF THE INTERNATIONAL PRELIMINARY REPORT  
ON PATENTABILITY  
(CHAPTER I OR CHAPTER II  
OF THE PATENT COOPERATION TREATY)  
(PCT Rules 44bis.3(c) and 72.2)

To:

HIRAKI, Yusuke  
Kamiya-cho MT Bldg. 19F  
3-20, Toranomom 4-chome  
Minato-ku, Tokyo 1050001  
JAPON



Date of mailing (day/month/year)  
11 May 2006 (11.05.2006)

Applicant's or agent's file reference  
PH-2220-PCT

International application No.  
PCT/JP2004/010094

**IMPORTANT NOTIFICATION**

International filing date (day/month/year)  
15 July 2004 (15.07.2004)

Applicant

SHARP KABUSHIKI KAISHA et al

### 1. Transmittal of the translation to the applicant.



The International Bureau transmits herewith a copy of the English translation of the international preliminary report on patentability (Chapter I).



The International Bureau transmits herewith a copy of the English translation of the international preliminary report on patentability (Chapter II).

### 2. Transmittal of the copy of the translation to the designated or elected Offices.

The International Bureau notifies the applicant that copies of that translation have been transmitted to the following designated or elected Offices requiring such translation:

EP, KR

The following designated or elected Offices, having waived the requirement for such a transmittal at this time, will receive copies of that translation from the International Bureau only upon their request:

AE, AG, AL, AM, AP, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EA, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, KE, KG, KP, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OA, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW

### 3. Reminder regarding translation into (one of) the official language(s) of the elected Office(s).

The applicant is reminded that, where a translation of the international application must be furnished to an elected Office, that translation must contain a translation of any annexes to the international preliminary report on patentability (Chapter II).

It is the applicant's responsibility to prepare and furnish such translation directly to each elected Office concerned within the applicable time limit (Rule 74.1). See Volume II of the PCT Applicant's Guide for further details.

The International Bureau of WIPO  
34, chemin des Colombettes  
1211 Geneva 20, Switzerland

Authorized officer

Masashi Honda

Facsimile No.+41 22 740 14 35

Facsimile No.+41 22 338 70 10

Translation

# PATENT COOPERATION TREATY

## PCT

### INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY (Chapter II of the Patent Cooperation Treaty)

(PCT Article 36 and Rule 70)

Applicant's or agent's file reference <b>PH-2220-PCT</b>	FOR FURTHER ACTION See Form PCT/IPEA/416	
International application No. <b>PCT/JP2004/010094</b>	International filing date (day/month/year) <b>15.07.2004</b>	Priority date (day/month/year) <b>16.07.2003</b>
International Patent Classification (IPC) or national classification and IPC <b>G02F1/13357, F21S2/00, F21V8/00, F21Y103/00</b>		
Applicant <b>SHARP KABUSHIKI KAISHA</b>		

- This report is the international preliminary examination report, established by this International Preliminary Examining Authority under Article 35 and transmitted to the applicant according to Article 36.
- This REPORT consists of a total of 6 sheets, including this cover sheet.
- This report is also accompanied by ANNEXES, comprising:
  - ☒ (sent to the applicant and to the International Bureau) a total of 1 sheets, as follows:
    - ☒ sheets of the description, claims and/or drawings which have been amended and are the basis for this report and/or sheets containing rectifications authorized by this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions).
    - ☐ sheets which supersede earlier sheets, but which this Authority considers contain an amendment that goes beyond the disclosure in the international application as filed, as indicated in item 4 of Box No. I and the Supplemental Box.
  - ☐ (sent to the International Bureau only) a total of (indicate type and number of electronic carrier(s)) \_\_\_\_\_, containing a sequence listing and/or tables related thereto, in computer readable form only, as indicated in the Supplemental Box Relating to Sequence Listing (see Section 802 of the Administrative Instructions).
- This report contains indications relating to the following items:
 

<input checked="" type="checkbox"/>	Box No. I	Basis of the report
<input type="checkbox"/>	Box No. II	Priority
<input type="checkbox"/>	Box No. III	Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
<input type="checkbox"/>	Box No. IV	Lack of unity of invention
<input checked="" type="checkbox"/>	Box No. V	Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability: citations and explanations supporting such statement
<input type="checkbox"/>	Box No. VI	Certain documents cited
<input type="checkbox"/>	Box No. VII	Certain defects in the international application
<input type="checkbox"/>	Box No. VIII	Certain observations on the international application

Date of submission of the demand	Date of completion of this report
Name and mailing address of the IPEA/IP	Authorized officer
Facsimile No.	Telephone No.

# INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY

International application No.

PCT/JP2004/010094

Box No. 1 Basis of the report

1. With regard to the language, this report is based on the international application in the language in which it was filed, unless otherwise indicated under this item.

☐ This report is based on translations from the original language into the following language \_\_\_\_\_ which is the language of a translation furnished for the purposes of:

- ☐ international search (Rule 12.3 and 23.1(b))
- ☐ publication of the international application (Rule 12.4)
- ☐ international preliminary examination (Rule 55.2 and/or 55.3)

2. With regard to the elements of the international application, this report is based on (replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to this report):

☐ the international application as originally filed/furnished

☒ the description:

pages 1-16 \_\_\_\_\_ as originally filed/furnished

pages\* \_\_\_\_\_ received by this Authority on \_\_\_\_\_

pages\* \_\_\_\_\_ received by this Authority on \_\_\_\_\_

☒ the claims:

nos. 3-8 \_\_\_\_\_ as originally filed/furnished

nos.\* \_\_\_\_\_ as amended (together with any statement) under Article 19

nos.\* 1-2 \_\_\_\_\_ received by this Authority on 09.05.2005

nos.\* \_\_\_\_\_ received by this Authority on \_\_\_\_\_

☒ the drawings:

sheets Fig. 1-10 \_\_\_\_\_ as originally filed/furnished

sheets\* \_\_\_\_\_ received by this Authority on \_\_\_\_\_

sheets\* \_\_\_\_\_ received by this Authority on \_\_\_\_\_

☐ a sequence listing and/or any related table(s) - see Supplemental Box Relating to Sequence Listing.

3. ☐ The amendments have resulted in the cancellation of:

☐ the description, pages \_\_\_\_\_

☐ the claims, nos. \_\_\_\_\_

☐ the drawings, sheets/figs \_\_\_\_\_

☐ the sequence listing (specify): \_\_\_\_\_

☐ any table(s) related to sequence listing (specify): \_\_\_\_\_

4. ☐ This report has been established as if (some of) the amendments annexed to this report and listed below had not been made, since they have been considered to go beyond the disclosure as filed, as indicated in the Supplemental Box (Rule 70.2(c)).

☐ the description, pages \_\_\_\_\_

☐ the claims, nos. \_\_\_\_\_

☐ the drawings, sheets/figs \_\_\_\_\_

☐ the sequence listing (specify): \_\_\_\_\_

☐ any table(s) related to sequence listing (specify): \_\_\_\_\_

\* If item 4 applies, some or all of those sheets may be marked "superseded."

## INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY

International application No.

PCT/JP2004/010094

Box No. V Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

## 1. Statement

Novelty (N)	Claims	<u>1-8</u>	YES
	Claims		NO
Inventive step (IS)	Claims		YES
	Claims	<u>1-8</u>	NO
Industrial applicability (IA)	Claims	<u>1-8</u>	YES
	Claims		NO

## 2. Citations and explanations (Rule 70.7)

Document 1: JP 2002-526808 A (3M Innovative Properties Co.), 20 August 2002; paragraphs 10-11 and 57-68; all drawings & WO 2000/020910 A1; page 3, lines 8-31; page 22, line 5 to page 28, line 17, all drawings & US 6160663 A & EP 1118032 A

Document 2: WO 2000/057240 A1 (Hitach, Ltd.), 28 September 2000; page 10, lines 12-13; fig. 1a

Document 3: JP 2003-43222 A (Yuka Denshi Co., Ltd.), 13 February 2003; paragraph 35

Document 4: JP 20000-30519 A (Enplas Corp.), 28 January 2000; paragraphs 10 and 27-78 and all diagrams

Document 5: JP 2003-177220 A (Dainippon Printing Co., Ltd.), 27 June 2003; paragraph 25

Document 6: JP 9-506985 A (Minnesota Mining and Manufacturing Co.), 8 July 1997; page 15, lines 10-22, fig. 9 & WO 1995/017692 A1; page 13, lines 5-18; and fig. 19 & US 2001/8464 A1 & EP 736188 A

Document 7: JP 10-333131 A (Matsushita Electric Industrial Co., Ltd.), 18 December 1998;

## INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY

International application No.

PCT/JP2004/010094

Box No. V	Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
-----------	---

	<p>paragraph 8 and fig. 14 &amp; US 6219113 B1; column 8, lines 20-22, and fig. 14</p> <p>Document 8: JP 2002-107513 A (Toppan Printing Co., Ltd.), 10 April 2002; claim 9</p> <p>Document 9: JP 10-206615 A (Nitto Denko Corp.), 7 August 1998; paragraphs 17-19 and fig. 3</p>
--	--

The inventions set forth in claims 1 and 2 do not involve an inventive step in the light of documents 1-3, cited in the international search report, and newly cited documents 8 and 9. Document 1 (paragraphs 10-11) discloses a phase-difference film which has anisotropic coefficients of thermal expansion. In addition document 2 (page 10, lines 12-13) discloses making the coefficients of thermal expansion of adjoining phase difference films substantially equal, and a person skilled in the art could easily apply this in document 1. Moreover, document 3 (paragraph 35) discloses the coefficient of linear thermal expansion as one coefficient of thermal expansion that should be made equal in two optical materials. And documents 8 and 9 disclose a constitution wherein a first optical sheet and second optical sheet are arranged next to one another in a separable state along a line perpendicular to the surface.

The invention set forth in claim 3 does not involve an inventive step in the light of documents 1-3 with document 4, cited in the international search report, and newly cited documents 8 and 9. Document 4 (paragraph 10) discloses a reflective polarizing sheet which has anisotropic coefficients of linear expansion. Document 4 (paragraphs 27-78) also discloses a structure in which an

## INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY

International application No.

PCT/JP2004/010094

Box No. V

Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability;  
citations and explanations supporting such statement

aforementioned reflective polarizing sheet is combined with a prism sheet or light-diffusing sheet. Since document 1 (paragraph 11) discloses reflective polarizing sheets which have anisotropic coefficients of thermal expansion, a person skilled in the art could easily apply an aforementioned structure in document 1.

The invention set forth in claim 4 does not involve an inventive step in the light of documents 1-4 and document 5, cited in the international search report, and newly cited documents 8 and 9. Document 5 (paragraph 25) discloses polycarbonate resins, polystyrene resins and nylon-6 resins as materials for light-diffusing sheets.

The inventions set forth in claims 5 and 6 do not involve an inventive step in the light of documents 1-5 and document 6, cited in the international search report, and newly cited documents 8 and 9. Document 6 (page 15, lines 10-22, and fig. 9) discloses an arrangement of a light source - reflective polarizing element - prism element. And a person skilled in the art could easily apply document 4 with this arrangement in document 1.

The inventions set forth in claims 7 and 8 do not involve an inventive step in the light of documents 1-6 and document 7, cited in the international search report, and newly cited documents 8 and 9. As disclosed in document 7 (paragraph 7 and fig. 14), arranging the transmission axis of a polarizing sheet parallel to the direction of the short side of the liquid crystal panel is known. In addition, document 1 (paragraphs 57-68) discloses an arrangement wherein the optical sheet is



INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY

International application No.

PCT/JP2004/010094

Box No. V

Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability;  
citations and explanations supporting such statement

rotated by a set angle.